



Norman H. Bangerter
Governor
Suzanne Dandoy, M.D., M.P.H.
Executive Director
Kenneth L. Alkema
Director

DEPARTMENT OF HEALTH
DIVISION OF ENVIRONMENTAL HEALTH

288 North 1460 West
P.O. Box 16690
Salt Lake City, Utah 84116-0690
(801) 538-6121

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DIVISION OF
OIL, GAS & MINING

DOGM
MINERALS PROGRAM
FILE COPY

October 29, 1990

Mr. Grant A. Pinkerton
North Lily Mining Company
P.O. Box 421
Eureka, Utah 84628

RE: North Lily Mining Company
Extension Project Phases I through III

Dear Mr. Pinkerton:

We received the plans and specifications for the subject project on October 10, 1990. We have the following comments on these items:

Drawings:

1. Sheet 6:

- a. Section E-E', in the toe of the protective cover material distance to the edge of the top of the ditch should be shown.
- b. 30-mil PVC liner is specified rather than 40-mil as in the original specification. Does this meet the requirements of NSF Standard 54?

2. Sheet 7:

- a. Section I-I', distance from the toe of the heaps to the dike, and to the slope of the primary liner should be shown.
- b. Section J-J':
 - i. A fence surrounding the facility, and the type, should be shown.
 - ii. Fill material beneath the secondary should be specified in detail. Will this material be of adequate strength not to fail under the weight of the ore, up to 50-feet high?

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c. Section K-K':

- i. Toe of heap separation from toe of dike should be shown and labeled as such. The entire flow from Phase II flows along the south dike. A ditch must be shown to carry this flow.
- ii. Fence location should be indicated.

3. Sheet 8:

Should not the solution collection lines be plugged to prevent accidental discharge during a wet reclamation construction period?

Specifications:

It appears the overflow pond is acceptable to use through phase II. However, for phase III, additional capacity will need to be added to maintain the full amount of volume required by the regulations. An alternative involving the encroachment of the 18-inch freeboard is not acceptable.

1. Section 4.2 & 5.2:
Topsoil or other unsuitable soils used in constructing the existing dikes is a concern. Some dikes will be covered with 50 feet of ore, and some will have fill on them in addition to the ore. The stability of these covered dikes is in question.
2. Section 5.0:
A smooth graded finish surface tolerance should be specified for the secondary liner, to prepare for the placement of the flexible membrane liner (FML).
3. Section 5.5:
Secondary liner should have a specified maximum size of 1-inch, not 3-inch. Also, less than 35% of the material must not be classified as gravel.
4. Section 6.6:
Seaming method is not specified.
5. Section 8.2.1:
This narrative conflicts with 5.5. There are not provisions in the regulations for a stratified secondary liner material.
6. Section 9.1:
Topsoil and other soils are not specified as unsuitable fill.

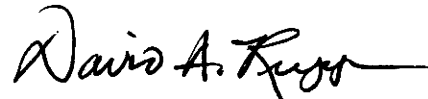
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7. Section 10.1:
First paragraph. Reference to section 9.2 for compaction is in error.
Second paragraph. ASTM D1557 seems more appropriate for a 50' ore loading to reduce potential settlement.
8. Section 10.2.1:
States " . . . material compacted to a dry density shall not be accepted." This statement seems in error.
9. Section: 10.2.3:
Ninety percent compaction is specified for the dikes. What if these dikes are extended in the future similar to new phases I-III? Apparently the existing dikes are compacted to the same degree.

Revisions to the provisions for neutralization should be shown in your groundwater and/or construction permit.

Please address the above issues in writing. Please feel free to call.

Sincerely,



David A. Rupp, P. E.
Environmental Engineer
Bureau of Water Pollution Control

DAR:rvg

cc: Dames and Moore, Salt Lake City
 Roger Foisy, Central Utah District Health Dept.
 Wayne Hedberg, DOGM

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